

REMARKS

Claims 35-51 are pending in this application. Of those claims, claims 37-51 have been withdrawn from consideration pursuant to the provisions of 37 C.F.R. §1.142(b).

In this Amendment, claims 35 and 36 have been amended. Care has been exercised to avoid the introduction of new matter. Support for the amendments to the claims can be found on, for example, page 5, line 26 to page 6, line 1; page 13, line 26 to page 14, line 1; page 19, line 16; page 20, lines 1-6; page 21, lines 5-7; and page 32, lines 1-4 of the specification. The specification has also been amended to correct a minor error.

Claims 35 and 36 are now active in this application, of which claim 35 is independent.

Claim Rejection under 35 U.S.C. § 112

In paragraph 2 of the Office Action, claims 35 and 36 have been rejected under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for disposing the oxidizer gas inlet header on the second surface of the first plate when the oxidizer gas outlet is on the second surface of the first plate, does not purportedly reasonably provide enablement for disposing the oxidizer gas inlet header on the second surface of the first plate when the oxidizer gas outlet is on the third surface of the second plate. The specification does not purportedly enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

With respect to claim 35, the Examiner specifically asserted as follows:

Claim 35, lines 9-13 and 20, recite disposing the oxidizer gas inlet header on the second surface of the first plate when the oxidizer gas outlet is on the third surface of the second plate. The present specification including the drawings does not provide support for this feature. The present specification and drawings do, however, provide support for disposing the oxidizer gas inlet header on the second surface of the first plate when the oxidizer gas outlet is on the second

surface of the first plate. Amendment of claim 35 is required to conform the claimed subject matter in line with the present specification.

In response, the limitations “disposing at least one of the fuel gas inlet header and the oxidizer gas inlet header on the side opposite to the heat medium inlet header or the heat medium outlet header or by disposing the oxidizer gas inlet header on the second surface of the first plate when the plurality of heat medium channels, the heat medium inlet header and a heat medium outlet header are disposed on the fourth surface of the second plate” have been deleted from claim 35. Accordingly, the rejection of claim 35 as well as claim 36 has been rendered moot.

In paragraph 3 of the Office Action, claims 35 and 36 have also been rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for heating at least one of the fuel gas inlet header and the oxidizer gas inlet header with the heat medium when the heat medium inlet header or heat medium outlet header are located on the same plate on the side opposite at least one of the fuel gas inlet header or the oxidizer gas inlet header, does not purportedly reasonably provide enablement for heating at least one of the fuel gas inlet header and the oxidizer gas inlet header with the heat medium when the heat medium is located on a different plate than either of the fuel gas inlet header and the oxidizer gas inlet header. The specification does not purportedly enable any person skilled in the art to which it pertains, or with which is it most nearly connected, to make and use the invention commensurate in scope with these claims.

The Examiner specifically asserted as follows:

The present specification and drawings set forth heating at least one of the fuel gas inlet header and the oxidizer gas inlet header with the heat medium when the heat medium inlet header or heat medium outlet header are located on the same plate on the side opposite at least one of the fuel gas inlet header or the oxidizer gas inlet header. Reference is made to respective paragraphs beginning on page 16, line 11 and page 20, line 21. The present specification including the drawings does not, however, support heating at least one of the fuel gas inlet header and the

oxidizer gas inlet header with the heat medium when the heat medium is located on a different plate than either of the fuel gas inlet header and the oxidizer gas inlet header. Amendment of claim 35 is required to conform the claimed subject matter in line with the present specification.

In response, the limitations “disposing at least one of the fuel gas inlet header and the oxidizer gas inlet header on the side opposite to the heat medium inlet header or the heat medium outlet header or by disposing the oxidizer gas inlet header on the second surface of the first plate when the plurality of heat medium channels, the heat medium inlet header and a heat medium outlet header are disposed on the fourth surface of the second plate, and heating at least one of the fuel gas inlet header and the oxidizer gas inlet header with the heat medium” have been deleted from claim 35. Accordingly, the rejection of claim 35 as well as claim 36 has been rendered moot.

In paragraph 5, claim 36 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner asserted that it is unclear which “gas inlet header” in line 2 of claim 36 is being referenced by this language appearing in this portion of this claim. In this Amendment, the limitations identified by the Examiner have been replaced with -- fuel gas inlet header -- for clarification.

Based on the foregoing, Applicants respectfully solicit withdrawal of the rejections of claims 35 and 36.

Support for the Present Amendment

Claim 35 now recites “a first unit cell and a second unit cell next to the first unit cell.” Support for the above limitations can be found on, for example, page 19, line 16 of the

specification describing “The fuel cell stack is produced by stacking such unit cells to form a unit.”

Claim 35 now recites “the fuel cell stack comprising a heat medium pass between the second surface of the first plate of the first unit cell and the fourth surface of the second plate of the second unit cell, the medium pass comprising a plurality of heat medium channels for distributing a heat medium, a heat medium inlet header and a heat medium outlet header.” Support for these limitations can be found on, for example, page 19, line 16 of the specification describing that “[t]he fuel cell stack is produced by stacking such unit cells to form a unit”; and page 32, lines 1-4 of the specification describing that “[f]urthermore, the heat medium channels 22b in the anode cooling plate 22 face the surface on which the oxidant gas channels of the cathode cooling plate 23 are not formed, thereby enabling the cathode cooling plate 23 to be cooled” (emphasis added).

In relation to the above, the specification on page 32, lines 2-3 describes that “the heat medium channels 22b in the anode cooling plate 22 face the surface on which the oxidant gas channels of the cathode cooling plate 23 are formed.” This sentence has been amended in the present Amendment to be -- the heat medium channels 22b in the anode cooling plate 22 face the surface on which the oxidant gas channels of the cathode cooling plate 23 are not formed -- (emphasis shows a change). This correction has apparent support. The “heat medium channels 22b in the anode cooling plate 22” is on a surface (*see* Fig. 8(b)) of anode cooling plate 22 (*see* Fig. 6). The “the surface on which the oxidant gas channels of the cathode cooling plate 23 are not formed,” is on a surface (*see* Fig. 9(b)) of cathode cooling plate 23 (*see* Fig. 6).

The limitations “by heating the fuel gas inlet header or the oxidant gas inlet header with the heat medium by disposing at least one of the fuel gas inlet header and the oxidant gas inlet

header (1) to face the heat medium inlet header or the heat medium outlet header” can be supported on page 5, line 26 to page 6, line 1 of the specification describing that “wherein an inlet header for at least one side of reaction gas channels is disposed so as to face the inlet header or the outlet header for said heat medium channels.”

Claim 35 further recites the limitations “(2) to be close to, and back to back with, the heat medium inlet header or the heat medium outlet header.” Support for the limitations can be found on, for example, page 13, lines 26 to page 14, line 1 of the specification describing that “a water inlet header in the concave form, which is disposed on the other surface of the plate 1”; page 20, lines 1-6 of the specification describing that “[i]n the second embodiment, the water inlet header is disposed such that it is close to the gas inlet header 4 on the other side, so that the water inlet header is heated by the cooling water supplied thereto, and the gas inlet header 4 is indirectly heated by the heat conduction, thereby making it possible to prevent the water vapor contained in the fuel gas from condensing”; and page 21, lines 5-7 of the specification describing that “[h]owever, it is possible to employ the structural arrangement in which the reaction gas and the cooling water flow in the direction anti-parallel to each other.”

Applicants, therefore, respectfully solicit favorable consideration of claims 35 and 36, as amended.

Conclusion

In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Tomoki Tanida

Registration No. 60,453

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 TT:MWE
Facsimile: 202.756.8087
Date: April 27, 2010

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as our correspondence address.**